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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Rodney Daughtrey  
Serial No. : 09/812,224  
Filed : March 19, 2001  
Title : FARE RULES SUMMARIZER FOR TRAVEL PLANNING

Art Unit : 3639  
Examiner : Thomas Dixon

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**(i.) Real Party In Interest**

The real party in interest in the above application is ITA Software, Inc.

**(ii.) Related Appeals and Interferences**

The appellant is not aware of any appeals or interferences related to the above-identified patent application.

**(iii.) Status of Claims**

This is an appeal from the decision of the Primary Examiner in an Office Action dated July 7, 2005, finally rejecting claims 1-39, all of the claims of the above application. The claims have been twice rejected. Claims 1-39 are the subject of this appeal.

In claim 31, a previous entry of an amendment inadvertently deleted the article "the" from claim 31. This will be corrected by a post decision amendment.

**(iv.) Status of Amendments**

All amendments have been entered. Appellant filed a Notice of Appeal on **October 6, 2005**.

**(v.) Summary of Claimed Subject Matter**

**Background**

Pricing of and combining airline fares to cover a traveler's itinerary requires checking to see if the fares of interest can be legally used, based on whether the rules associated with the fares allow them to be used for a particular itinerary. Fares and their associated rules are published by airlines and resellers, typically provided through an intermediary, such as "The Airline Tariff Publishing Company (ATPCO)." Travel agents have computer-based tools that can be used to display the rules and restrictions for a particular fare. However, such tools are limited. For example, the tools are text-based and do not effectively convey information. For example, they often use cryptic text that can take a long time to understand and read through. Often such tools require an agent to navigate through several different interfaces. [Specification page 1, lines 4-18].

### Claim 1

Inventive features of claim 1 include a fare evaluation result table that displays fare rule summaries for fares in slices of an itinerary, the fare evaluation result table having a first one of rows and columns representing fares and a second one of rows and columns representing the fare rule summaries. "For a round-trip query (BOS-PHL), (which has been partially modified so as to shown all features on a single page) the fare rule summary frame 80 also includes a fare rule summary table 86 (one for each slice, part of slice 0 shown) that graphically enumerates the fares and rule summaries. The fare rule summary table 86 also enumerates the price of the fare and combinability codes (Cmbs). The display is based upon how the user set up the initial query in FIG. 2." [Appellant's specification page 7, lines 8-15].

"The fare rule summary table 86 is a two-dimensional grid with the fares 88 being rows of the table. Columns of the fare rule summary table 86 include fare price 92 and rule summaries for each category 93 for which the fare has rules or restrictions. The fare rule summary table 86 also includes columns for combinability codes 98. Combinability codes 98 represent legal combinations for fares in one slice with fares in another slice. The combinability codes 98 are listed in a last set of columns of the fare rule summary table. The combinability codes 98 are assigned by the fare rule summary tool 17 and are expressed as letters of the alphabet." [Appellant's specification page 7, lines 16-26].

#### Claim 15

Claim 15 claims another aspect of the invention. Claim 15 is a method for producing a concise summary of fare rules and restrictions that the fare rules place on fares. "Referring now to FIG. 4, a fare summarizer process 100 to produce information for the fare rule summary table is shown." [Appellant's specification page 7, lines 27-28].

Inventive features of claim 15 include parsing a set of queries to provide at least one city pair corresponding to an origin and a destination of a flight slice. "The fare summarizer process 100 receives 102 a query from the user through the query section of the user interface. The query is parsed (not shown) and information in the query is used to retrieve 104 some or all of the fares for city pairs, i.e., origins and destinations that were specified by the user, over a particular time window." [Appellant's specification page 7, line 29 to page 8, line 3].

Inventive features of claim 15 also include retrieving fares and fare rules for each city pair over a time period set in the query. "The fare summarizer process 100 retrieves all of the fares for each faring market as identified by the city pairs and the departure or arrival time windows for those city pairs from the ATPCO database 20a. Fares have effective or discontinued dates and so forth, which determine whether or not the fares are applicable for the departure or arrival time windows specified in the user query. Fares that are not in the effective and discontinued date range are screened out." [Appellant's specification page 8, lines 3-11].

Inventive features of claim 15 also include evaluating the retrieved fares against the retrieved rules and returning a status corresponding to pass, fail, or defer. "The fare summarizer process 100 also determines 105 whether or not a particular fare passes or fails each rule category. The techniques used in the above mentioned application can be used for rule evaluation. The fare summarizer process 100 evaluates the fare for each rule category. The fare summarizer process applies the rule categories to each fare. The fare summarizer process 100 returns one of three values for each category for a fare. Either the fare "passes" that category meaning that the fare can be used in a pricing solution, the fare "fails" that category meaning that the fare can not be used in the pricing solution, or evaluation of that fare must be "deferred." Deferred indicates that there is not sufficient information at that point in the fare summarizer process 100 to determine whether or not the fare can be used in a pricing solution. A defer result is most likely to occur when the fare rule has a restriction that can only be evaluated at a priceable unit level or higher level." [Appellant's specification page 8, line 12-28].

Inventive features of claim 15 also include producing a summary of the results of evaluating the rules for a fare against the criteria specified in the query; and displaying the summary on a user output device. "The fare summarizer process 100 summarized 106 the results of the fare search and associated rule evaluation for each rule category. For a particular fare, there are summaries at four different levels. The first level is the summaries for all of the categories for which there are rules for that particular fare." [Appellant's specification page 8, line 29 to page 9, line 3].

### Claim 19

Another aspect of the invention is covered by original claim 19. Claim 19, as originally filed, was for a computer program product residing on a computer readable medium for producing a fare rule summary. [Appellant's specification page 19]. "If requested by the client, for example client 30c, the server 12 can also execute a fare rule summarizer tool 17. The fare rule summarizer tool 17 has a user interface and can use portions of the faring process i.e., fare retrieval and rules evaluation to summarize the fares and results 39 of evaluating those fares against the fare rules retrieved from the ATPCO database." [Appellant's specification page 4, line 28 to page 5, line 3].

Inventive features include instructions to populate a summary table of fares and corresponding evaluations for each fare rule category. "Columns of the fare rule summary table 86 include fare price 92 and rule summaries for each category 93 for which the fare has rules or restrictions." [Appellant's specification page 7, lines 17-20].

Claim 19 also calls for instructions to render the summary table on an output device. "The fare summary is displayed on a display output device." [Appellant's specification page 2, line 5].

### Claim 28

Another aspect of the invention is covered by claim 28. Claim 28 is directed to a method for providing a fare rule summary tool as a user interface for display on a monitor. This feature is generally supported for analogous reasons as those given in claim 15.

Features of claim 28 include rendering on the monitor a fare evaluation result table that shows fare rule summaries for fares in slices of an itinerary, the fare evaluation result table having a first one of rows and columns representing fares and a second one of rows and columns representing the fare rule summaries. These features are supported at least by the analogous features of claim 1.

### Claim 36

Another aspect of the invention is covered by claim 36. Claim 36 is directed to a computer program product residing on a computer readable medium for producing a concise

summary of fare rules and restrictions that the fare rules place on fares. This feature is supported at least by the analogous features of claim 19.

Inventive features of claim 36 include instructions to parse a set of queries; retrieve fares and fare rules for each city pair over a time and evaluate the retrieved fares against the retrieved rules and returning a status corresponding to pass, fail, or defer; and produce a summary of the results of evaluating the rules, the summary indicating the status of the rules for each category of rules; and display the summary on a user output device. These features are supported at least by the analogous features of claim 15.

**(vi.) Grounds of Rejection to be Reviewed on Appeal**

(1) Claims 1-14 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

(2) Claims 15-18, 22-27 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

(3) Claims 19-21 and 36-39 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

(4) Claims 28-35 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

(5) Claims 15-17 stand rejected under 35 U.S.C. 102(b) as being anticipated by Tanner (WO 01159590).

(6) Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanner (WO 01 159590) in view of Kirk (5,768,578).

**(vii.) Argument**

**Anticipation**

"It is well settled that anticipation under 35 U.S.C. §102 requires the presence in a single reference of all of the elements of a claimed invention." *Ex parte Chopra*, 229 U.S.P.Q. 230, 231 (BPA&I 1985) and cases cited.

"Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim." *Connell v. Sears, Roebuck & Co.*, 220 U.S.P.Q. 193, 198 (Fed. Cir. 1983).

"This court has repeatedly stated that the defense of lack of novelty (i.e., 'anticipation') can only be established by a single prior art reference which discloses each and every element of the claimed invention." *Structural Rubber Prod. Co. v. Park Rubber Co.*, 223 U.S.P.Q. 1264, 1270 (Fed. Cir. 1984), citing five prior Federal Circuit decisions since 1983 including *Connell*.

In a later analogous case the Court of Appeals for the Federal Circuit again applied this rule in reversing a denial of a motion for judgment n.o.v. after a jury finding that claims were anticipated. *Jamesbury Corp. v. Litton Industrial Prod., Inc.*, 225 U.S.P.Q. 253 (Fed. Cir. 1985).

After quoting from *Connell*, "Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim," 225 U.S.P.Q. at 256, the court observed that the patentee accomplished a constant tight contact in a ball valve by a lip on the seal or ring which interferes with the placement of the ball. The lip protruded into the area where the ball will be placed and was thus deflected after the ball was assembled into the valve. Because of this constant pressure, the patented valve was described as providing a particularly good seal when regulating a low pressure stream. The court quoted with approval from a 1967 Court of Claims decision adopting the opinion of then Commissioner and later Judge Donald E. Lane:

[T]he term "engaging the ball" recited in claims 7 and 8 means that the lip contacts the ball with sufficient force to provide a fluid tight seal \*\*\*\*\* The Saunders flange or lip only sealingly engages the ball 1 on the upstream side when the fluid pressure forces the lip against the ball and never sealingly engages the ball on the downstream side because there is no fluid pressure there to force the lip against the ball. The Saunders sealing ring provides a compression type of seal which depends upon the ball pressing into the material of the ring. \*\*\* The seal of Saunders depends primarily on the contact between the ball and the body of the sealing ring, and the flange or lip sealingly contacts the ball on the upstream side when the fluid pressure increases. 225 U.S.P.Q. at 258.



Relying on *Jamesbury*, the ITC said, "Anticipation requires looking at a reference, and comparing the disclosure of the reference with the claims of the patent in suit. A claimed device is anticipated if a single prior art reference discloses all the elements of the claimed invention as arranged in the claim." *In re Certain Floppy Disk Drives and Components Thereof*, 227 U.S.P.Q. 982, 985 (U.S. ITC 1985).

#### Obviousness

"It is well established that the burden is on the PTO to establish a prima facie showing of obviousness, *In re Fritsch*, 972 F.2d. 1260, 23 U.S.P.Q.2d 1780 (C.C.P.A., 1972)."

"It is well established that there must be some logical reason apparent from the evidence or record to justify combination or modification of references. *In re Regal*, 526 F.2d 1399 188, U.S.P.Q.2d 136 (C.C.P.A. 1975). In addition, even if all of the elements of claims are disclosed in various prior art references, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill in the art would have been prompted to combine the teachings of the references to arrive at the claimed invention. *Id.* Even if the cited references show the various elements suggested by the Examiner in order to support a conclusion that it would have been obvious to combine the cited references, the references must either expressly or impliedly suggest the claimed combination or the Examiner must present a convincing line of reasoning as to why one skilled in the art would have found the claimed invention obvious in light of the teachings of the references. *Ex Parte Clapp*, 227 U.S.P.Q.2d 972, 973 (Board. Pat. App. & Inf. 985)."

"The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984).

Although the Commissioner suggests that [the structure in the primary prior art reference] could readily be modified to form the [claimed] structure, "[t]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Laskowski*, 10 U.S.P.Q. 2d 1397, 1398 (Fed. Cir. 1989).

"The claimed invention must be considered as a whole, and the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination." *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick*, 221 U.S.P.Q. 481, 488 (Fed. Cir. 1984).

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103, teachings of references can be combined only if there is some suggestion or incentive to do so. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984) (emphasis in original, footnotes omitted).

"The critical inquiry is whether 'there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.'" *Fromson v. Advance Offset Plate, Inc.*, 225 U.S.P.Q. 26, 31 (Fed. Cir. 1985).

**(1) Claims 1-14 claim statutory subject matter within the meaning of 35 U.S.C. 101.**

**Claim 1**

Claim 1 calls for a user interface for a fare rule summary tool. In claim 1, the user interface is displayed on a monitor and includes a fare evaluation result table that displays fare rule summaries for fares in slices of an itinerary, the fare evaluation result table having a first one of rows and columns representing fares and a second one of rows and columns representing the fare rule summaries.

The examiner contends with respect to claim 1, that: "It simply displays a table, does not manipulate or change data, and the monitor argued is in the preamble and has been given no weight and therefore is not seen to be in the technological arts." [Examiner's Action July 7, 2005, page 2].

Appellant contends that the subject matter of claim 1 is patentable subject matter within the meaning of 35 U.S.C. §101.

The examiner stated:

The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

9. Further, despite the express language of §101 several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena," and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185,209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973,47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

10. This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman- Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter ... is statutory, not on whether the prior art which the claimed subject matter purports to replace... is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. In *re Toma* at 857. In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

11. The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under 5101, but rather under 55102, 103 and 112." See *State Street Bank & Trust Co.* at 1377.

Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be nonstatutory. See *Exparte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

Appellant contends that the Board has refused to adopt any such two-prong test, as most

recently expressed in *Ex Parte Lundgren*, \_\_ USPQ2d \_\_ (BPAI Oct. \_\_, 2005).<sup>1</sup> Moreover, the precedents that are binding on this Board and the examiner clearly reject the notion that *Musgrave* announced a two-prong test for determining whether claims recite statutory subject matter. Appellant contends that the test for statutory subject matter is whether a sequence of operational steps produce a useful, concrete and tangible result.

Appellant contends that the examiner's position is unsupported by the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility."<sup>2</sup> Appellant's claims fall within an enumerated statutory category given by 35 U.S.C. 101 (process, machine, manufacture and are not directed to one of the judicial exceptions namely Laws of Nature, Natural Phenomena and Abstract Ideas.

Because the Board has rejected the Technological Arts prong and the examiner has not refuted that the claims produce "a produce a useful, concrete and tangible result" Appellant contends that the examiner's rejection should be reversed.

The Federal Circuit, in *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F. 3d 1368, 1374, 47 USPQ2d 1596, 1601-02 (Fed. Cir. 1998), stated:

After Diehr and Chakrabarty, the Freeman-Walter-Abele test has little, if any, applicability to determining the presence of statutory subject matter. As we pointed out in Alappat, 33 F.3d at 1543, 31 USPQ2d at 1557, application of the test could be misleading, because a process, machine, manufacture, or composition of matter employing a law of nature, natural phenomenon, or abstract idea is patentable subject matter even though a law of nature, natural phenomenon, or abstract idea would not, by itself, be entitled to such protection.<sup>(6)</sup> The test determines the presence of, for example, an algorithm. Under Benson, this may have been a sufficient indicium of nonstatutory subject matter. However, after Diehr and Alappat, the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory

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<sup>1</sup> Appeal No. 2003-2088 HEARD: April 20, 2004. (Fleming, Harkcom, Hairston, Jerry Smith (dissent), Barrett (concur-in-part, dissent-in-part, with Smith) (per curium))

<sup>2</sup> United States Patent and Trademark Office OG Notices: 22 November 2005.

subject matter, unless, of course, its operation does not produce a "useful, concrete and tangible result." Alappat, 33 F.3d at 1544, 31 USPQ2d at 1557. <sup>(7)</sup> (Footnotes omitted.)

It is also undeniable that The Federal Circuit in *State Street Bank & Trust Co.* repudiated the "Freeman-Walter-Abele test" in view of the Supreme Courts later decisions in *Diehr*<sup>3</sup> and *Chakrabarty*<sup>4</sup>.

The examiner contends that the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts." The phrase "technological arts" as used by the court *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970) was viewed as the only requirement for establishing statutory subject matter. Judge Baldwin in a concurring opinion clearly pointed out the effect that "technological arts" would have in patent jurisprudence, not as a limiting phase, but as a phrase that would be read as an expanse of patentable subject matter.<sup>5</sup>

In *Musgrave*, the court stated:

We cannot agree with the board that these claims (all the steps of which can be carried out by the disclosed apparatus) are directed to non-statutory processes merely because some or all the steps therein can also be carried out in or with the aid of the human mind or because it may be necessary for one performing the processes to think. All that is necessary, in our view, to make a sequence of operational steps a statutory 'process' within 35 U.S.C. § 101 is that it be in the technological arts so as to be in consonance with the Constitutional purpose to promote the progress of 'useful arts.' Const. Art. 1, sec. 8.

In the Federal Circuit's view, all that was required to make a sequence of steps statutory is that it be within the "technological arts." A claim that calls for a user interface for a fare rule

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<sup>3</sup> *Diamond v. Diehr*, 450 U.S. 175 (1981).

<sup>4</sup> *Diamond v. Chakrabarty*, 447 U.S. 303 (1980).

<sup>5</sup> What The Majority Opinion Does One need only read the page 893 of the opinion to find the principal holding: 'All that is necessary \* \* \* to make a sequence of operational steps a statutory 'process' within 35 USC 101 is that it be in the technological arts.' No limitations are placed upon this holding. In effect it is a pronouncement of new law.

summary tool, displayed on a monitor is within the "technological arts," since the claim is not directed solely to an abstract idea, mental step or law of nature.

However, the Federal Circuit, in *In re Toma*, 575 F.2d 872, 197 U.S.P.Q. 852 (CCPA, 1978) clarified the use of the "technological arts" inquiry that the examiner relies on here. In *Toma*, at 575 F.2d at 877, the court stated that: "The language which the examiner has quoted was written in answer to "mental steps" rejections and was not intended to create a generalized definition of statutory subject matter. Moreover, it was not intended to form a basis for a new §101 rejection as the examiner apparently suggests. To the extent that this "technological arts" rejection is before us, independent of the rejection based on Benson, it is also reversed.

The holding in *Toma* that "the invention was nothing more than an abstract idea which is not tied to any technological art, environment, or machine, and is not a useful art as contemplated by the Constitution of the United States.", id. at 877, the court did not adopt a new test but merely expressed a short cut for the exceptions to patentable subject matter, namely patent claims drawn solely to abstract ideas, laws of nature or mental steps.

The examiner relies on *Ex parte Bowman*, 61 U.S.P.Q.2d 1669 (Board of Patent Appeals and Interferences) to distinguish *State Street*, and advance the "technological arts" test, as a separate test established in *Toma*, and as a dichotomy<sup>6</sup>, recently acknowledged by the Board in affirming a §101 rejection in *Bowman*. However, unlike the situation presented to the Board in

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<sup>6</sup> Appellant does not see where the Board in *Bowman* expressed any dichotomy. Rather, the board expressed a view that technological arts was merely another way to address or view useful arts. The Board did not say that technological arts implied another test. The Board in *Bowman* stated:

We interpret the examiner's rejection as finding that the claimed invention before us is nothing more than an abstract idea because it is not tied to any technological art or environment. Appellant's argument is that the physical (even manual) creation of a chart and the plotting of a point on this chart places the invention within the technological arts.

The phrase "technological arts" has been created to offer another view of the term "useful arts." The Constitution of the United States authorizes and empowers the government to issue patents only for inventions which promote the progress [of science and] the useful arts."

Bowman,<sup>7</sup> Appellant's specification is clearly within the technological arts and all of Appellant's claims recite features within the technological arts.

Accordingly, in view of the Board's decision in *Ex Parte Lundgren* and the other binding precedent, the examiner is in error.

**(2) Claims 15-18, 22-27 claim statutory subject matter within the meaning of 35 U.S.C. 101.**

**Claim 15**

Claim 15 calls for a method for producing a concise summary of fare rules and restrictions that the fare rules place on fares. Claim 15 requires sophisticated processing of parsing a set of queries to provide at least one city pair corresponding to an origin and a destination of a flight slice, retrieving fares and fare rules for each city pair over a time period set in the query, evaluating the retrieved fares against the retrieved rules and returning a status corresponding to pass, fail, or defer and producing a summary of the results of evaluating the rules for a fare against the criteria specified in the query. Claim 15 also requires displaying the summary on a user output device.

The examiner contends that: "Claims 15-18, 22-27 are not seen to be in the technological arts, no technology is claimed but a display and that is in the preamble, and therefore is not seen to be in the technological arts." [Examiner's Action July 7, 2005, page 3].

The examiner's contention is incorrect. As set forth above, the Board and binding precedent repudiate the technological arts test. Nevertheless Claim 15 is within the technological arts, since technology is claimed in the claims and the technology claimed is not merely confined to the preamble, but includes the post-processing step of displaying the summary on a user output device.

According to the examiner, "The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter is statutory." Appellant contends that to the extend this test

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<sup>7</sup> The examiner finds that neither the specification nor the claims discuss the use of any technology with respect to the claimed invention [answer, pages 5-6]. [1] We agree with the examiner. Appellant has carefully avoided tying the disclosed and claimed invention to any technological art or environment. As noted by the examiner, the disclosed and claimed invention is directed to nothing more than a human making mental computations and manually plotting the results on a paper chart [answer, page 5].

is followed by the Federal Circuit, in view of its later decisions, in *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994), and *State Street Bank*, claim 15 clearly meets that test since the post-processing step of displaying the summary on a user output device clearly involves technology. Moreover, for these claims satisfaction of the inquiry is not predicated on whether the product of the claimed subject matter ... is statutory, whether the prior art which the claimed subject matter purports to replace ... is statutory, and whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine." In claim 15, as in *In re Toma* at 857 the claimed invention is within the "technological arts" because the claimed invention has an operation performed on a machine namely a display.

**(3) Claims 19-21 and 36-39 claim statutory  
subject matter within the meaning of 35 U.S.C.  
101.**

Claim 19

Claim 19 calls for "A computer program product residing on a computer readable medium for producing a fare rule summary comprises instructions for causing the computer to \*\*\*."

The examiner contends that: "Claims 19-21, 36-39 are not seen to be in the technological arts, but code per se, the instructions are simply on the medium and is (sic) not executed."

Appellant contends that the "computer program product residing on a computer readable medium" recites statutory subject matter and that there is no requirement that the instructions are "executed ." Claim 19 comprises instructions for causing a computer to populate a summary table \*\*\* and render the summary table on an output device. The examiner has not produced any precedent upon which to reject claim on the basis that: "the instructions are simply on the medium and is (sic) not executed." [Examiner's Action July 7, 2005, page 3].

Rather, Appellant has claimed a novel article of manufacture, namely a computer readable medium on which is stored the claimed computer program product. In, *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994), the court specifically found that:



The Board reversed the 35 U.S.C. Section 101 rejection. The Board found that claims 1 through 5, directed to a memory containing stored information, as a whole, recited an article of manufacture. The Board concluded that the invention claimed in claims 1 through 5 was statutory subject matter. *Lowry* 32 F.3d at

In *Lowry*, the claims were found statutory by the Board because the claims were to a memory, i.e., an article of manufacture. The Board acknowledged the statutory nature of the memory, but then proceeded to apply the so-called printed matter doctrine and was subsequently reversed by the Federal Circuit. Appellant's claim 19 recites an article of manufacture, namely "a computer program product residing on a computer readable medium." The Patent Office's own guidelines to patenting of Computer related inventions does not support the position taken by the examiner.<sup>8</sup>

Claim 19 does not claim nonfunctional descriptive materials such as music, literary works and a compilation or mere arrangement of data. Rather, claim 19 claims instructions to generate a novel and non-obvious user interface that provides an important tool for users to determine fare rule restrictions of fares.

**(4) Claims 28-35 claim statutory subject matter  
within the meaning of 35 U.S.C. 101.**

**Claim 28**

Claim 28 calls for a method for providing a fare rule summary tool as a user interface for display on a monitor. Claim 28 includes the feature of rendering on the monitor a fare evaluation result table that shows fare rule summaries for fares in slices of an itinerary, the fare evaluation

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<sup>8</sup> "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se. *Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 158384, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). MANUAL OF PATENT EXAMINING PROCEDURE §2106 page 2100-12 rev. May 20.04

result table having a first one of rows and columns representing fares and a second one of rows and columns representing the fare rule summaries.

The examiner contends that: "Claims 28-35 are not seen to be in the technological arts, no technology is claimed but a display, and therefore is not seen to be in the technological arts." [Examiner's Action July 7, 2005, page 3].

Appellant contends that the feature of "rendering on the monitor a fare evaluation result table" places claim 28 in the technological arts, since technology is claimed in the recitation of a monitor. For the reasons discussed above, claim 28 is also directed to statutory subject matter.

**(5) Claims 15-17 are not anticipated by Tanner.**

Claim 15

Claim 15 is directed to a method for producing a concise summary of fare rules and restrictions that the fare rules place on fares. Tanner neither describes nor suggests at least the following features of claim 15, namely \*\*\* evaluating the retrieved fares against the retrieved rules and returning a status corresponding to pass, fail, or defer and producing a summary of the results of evaluating the rules for a fare against the criteria specified in the query.

The examiner contends that:

Tanner (590) discloses: parsing a query to provide at least one city pair corresponding to an origin and a destination, see figure 3; retrieving fares and fare rules for each city pair over a time period set in the query, see figure 3; evaluating the retrieved fares against the retrieve rules and returning a status corresponding to pass, fail, or defer see figure 3 (Avl); producing a summary of the results of the rules for a fare against the criteria specified in the query, see figure 7B; and displaying the summary on a user output device, see figures 3, 4A-B.

Tanner is a Non-Enabling Disclosure

Pictures and drawings may be sufficiently enabling to put the public in the possession of the article pictured. Therefore, such an enabling picture may be used to reject claims to the article. However, the picture must show all the claimed structural features and how they are put together. *Jockmus v. Leviton*, 28 F.2d 812 (2d Cir. 1928). "The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue

experimentation.” *Elan Pharm., Inc. v. Mayo Foundation for Medical and Education Research*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003).

Tanner does not provide a written description of the claimed subject matter and in the disclosure does not provide a suitable description to enable a person of ordinary skill in the art to make and use the subject matter of claim 15. Tanner is devoid of any teachings of “producing a summary of the results of evaluating the rules for a fare against the criteria specified in the query.”

The examiner relies on Fig. 7B reproduced below to show “producing a summary of the results of the rules for a fare against the criteria specified in the query.”

FIG. 7B is a screenshot of a flight search interface. The interface includes a search bar with a "CLEAR" button, a "Returning In: 1 days" field, a "SEARCH" button, an "Airline: All" dropdown menu, and radio buttons for "DWO", "STOPOVER", and "OPENJAW". Below the search bar is a table of flight results. The table has columns: Sel, F#, AI, Dep, Dest, Date, D.T., A.T., PI, and Avl. The table contains two groups of flight results. The first group shows flights from DFW to DTW on 17 Apr, and from DTW to FRA on 17 Apr. The second group shows flights from FRA to DTW on 01 May, and from DTW to DFW on 01 May. The interface also includes a "SUBSTITUTE SHEET (RULE 26)" label on the left, a "11/15" date on the right, and a "PCT/IB01/04112" reference on the right. At the bottom right, there are buttons for "CITY", "CAL", and "HELP".

Sel	F#	AI	Dep	Dest	Date	D.T.	A.T.	PI	Avl
⊕	692	NW	DFW	DTW	17 Apr	12:15PM	03:55PM	D9S	M9
	52	NW	DTW	FRA	17 Apr	05:45PM	07:55AM	D10	M9
⊕	53	NW	FRA	DTW	01 May	10:20AM	01:25PM	D10	M9
	697	NW	DTW	DFW	01 May	03:10PM	05:00PM	D9S	M9

Fig. 7B does not include any of the recited features of Applicant's claim 15, as set out above. Rather, Fig. 7B merely depicts flights and flight details. According to Tanner, (page 13):

Once the flight is booked, the travel agent can then pay for the flight. Figure 6 illustrates the initiation of a booking. The travel agent will receive a confirmation number and specific contract details as shown in Figure 7. Figure 8 illustrates a separate contract management system that allows an agent or wholesaler to maintain their specific net fare airline contracts and their attendant restrictions and conditions.

According to Tanner, Fig. 7 shows contract details of a flight that was booked according to Figure 6.

The examiner contends that Fig. 3 shows a status corresponding to pass, fail, or defer as "(Avl)." However, Tanner describes Fig. 3 differently. According to Tanner, (Page 13):

**Once the information is entered, the system of the present invention searches and sorts available flights based on the inputted travel criteria, as illustrated in Figure 3. The flights are displayed by departure, destination, fare, approximate tax, total, airline, via gateway, and availability.**

Clearly, Tanner, on page 13 and in Fig. 3 is referring to flight availability, not status of rule evaluations for fares. Tanner does not describe or define the term (AVL) that appears in Fig.3, but one of ordinary skill in the art would presume AVL to mean availability, not "evaluating the retrieved fares against the retrieved rules and returning a status corresponding to pass, fail, or defer," since Tanner describes Fig. 3 as displaying flights according to: "departure, destination, fare, approximate tax, total, airline, via gateway, and availability."

Therefore, Fig. 3 neither describes nor suggests the invention, nor is Fig. 3 sufficiently enabling to put the public in the possession of the features of claim 15 and Tanner is an improper reference to use to reject claim 15. *Jockmus v. Leviton*, 28 F.2d 812 (2d Cir. 1928). Accordingly, claim 15 is distinct over Tanner, since Tanner is not a proper reference and since Tanner does not disclose every element of claim 15 arranged as in the claim.

#### Claim 16

Claim 16 recites that: "determining whether the summary is complete, likely complete, partially complete or whether the summary is missing information." The examiner contends: "As per Claim 16, Tanner (590) further discloses determining whether the summary is complete, likely complete, partially complete or whether the summary is missing information, see figure 3 (Avl). Avl depicted in Fig. 3 of Tanner neither describes nor suggest, nor enables this feature as discussed above.

#### Claim 17

Claim 17 is not anticipated by Tanner. Claim 17 recites representing the summary in a table where rows of the table represent fare rules and columns of the table represent fare rules or

categories. The examiner contends that "Tanner (590) further discloses the table is comprised of rows that represent fare rules, see figure 3, (rule button for each row) and columns that represent rule summaries, see rules."

Tanner does not anticipate claim 17, because Tanner fails to describe all of the features of claim 17 arranged as in claim 17. Tanner does not provide a written description of the claimed subject matter and in the disclosure does not provide a suitable description to enable a person of ordinary skill in the art to make and use the subject matter of claim 17. Since Fig. 3 is not sufficiently enabling to put the public in the possession of this feature of claim 15, Tanner is an improper reference to use to reject claim 17. *Jockmus v. Leviton*, 28 F.2d 812 (2d Cir. 1928).

Fig. 3 in Tanner does not describe all of the features of claim 17. Claim 17 requires rows of the table representing fare rules and columns of the table representing fare rules or categories. However, Tanner describes Fig. 3 as: "an example of a availability screen from the travel search." (Tanner page 5).

**(6) Claim 18 is allowable over Tanner (WO 01 159590) in view of Kirk (5,768,578).**

Claim 18

Claim 18 is neither described nor suggested by Tanner taken separately or in combination with Kirk. Claim 18 further limits claim 15 by reciting representing the summary in a table where rows of the table represent fares and columns of the table represent rules or categories and applying a color to cells of the table with the color scheme signifying whether the cell corresponds to pass, fail, or defer status.

The examiner acknowledges that "Tanner (590) does not disclose applying a color to cells of the table with the color scheme signifying whether the cell corresponds to pass, fail or defer status." The examiner relies on Kirk to teach this feature.

The examiner contends that:

**Kirk ('578) teaches the display of different color, underline or italics in a document with a mixture of text, graphics and hyperlinks, see column 26, lines 47-55 to distinguish the colored portions to attract the user's attention. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to distinguish areas in a presented page by different color, underlining, or typeface as taught by Kirk ('578) to distinguish text to attract the user's attention."**

Kirk does not cure the deficiencies of Tanner. Kirk describes display of document as a mixture of text, graphics and hypertext links. The displayed hypertext links have a different appearance (e.g. different color, underline, italics) to distinguish them from the rest of the text in the document. Kirk combined with Tanner fails to suggest "applying a color to cells of the table with the color scheme signifying whether the cell corresponds to pass, fail or defer status." Accordingly, one of ordinary skill in the art would not be motivated to apply colors to the cells to distinguish different statuses, since no motivation exists to modify Tanner to include a table in the first instance, or to distinguish cells in the table for any reason. While, Kirk distinguishes hyperlinks from text, Kirk does not suggest to distinguish different hyperlinks. In contrast, claim 18 applies the color scheme to cells of the table to distinguish cells that pass from cells that fail or have a deferred status.

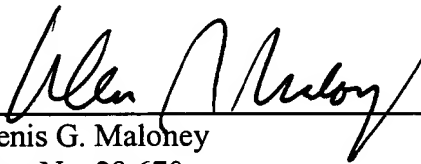
### Conclusion

Appellant submits, therefore, that Claims 1-30 and 32 are proper under 35 U.S.C. 101 and are allowable over the cited art. Therefore, the Examiner erred in rejecting Appellant's claims and should be reversed.

Respectfully submitted,

Date: \_\_\_\_\_

2/7/06



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**Appendix of Claims**

1. A user interface for a fare rule summary tool, the user interface displayed on a monitor, the user interface comprising:

a fare evaluation result table that displays fare rule summaries for fares in slices of an itinerary, the fare evaluation result table having a first one of rows and columns representing fares and a second one of rows and columns representing the fare rule summaries.

2. The user interface of claim 1 wherein rows of the fare evaluation result table represent fares and columns represent the rule summaries.

3. The user interface of claim 2 wherein one of the columns represents fare price.

4. The user interface of claim 2 wherein at least one of the columns represents fare combinability restrictions.

5. The user interface of claim 1 wherein the fare evaluation result table has the fare rules organized into categories of fare rules, and cells of the fare evaluation result table contain a status that would correspond to pass, fail, or defer for the fares.

6. The user interface of claim 5 wherein pass, fail, or defer results are represented by unique visual indications.

7. The user interface of claim 4 6 wherein the unique visual indications are rendered in different colors for pass, fail, or defer.

8. The user interface of claim 1 wherein the fare evaluation result table depicts statuses of the summaries.

9. The user interface of claim 8 wherein statuses of the summaries are complete, likely complete, partially complete, or missing information.

10. The user interface of claim 9 wherein statuses of the summaries are represented by a unique visual indication.

11. The user interface of claim 10 wherein the unique visual indication is a change in the typeface that is used to depict the status information.

12. The user interface of claim 1 further comprising a user query region that enables a user to enter information for a set of slices or trip segments.

13. The user interface of claim 12 wherein the user query region includes fields to specify a set of origin cities, a set of destination cities, a time window for departure and arrival for each trip segment.

14. The user interface of claim 12 further comprising fields to enable a user to specify different parameters that control which fares and which airlines are examined.

15. A method for producing a concise summary of fare rules and restrictions that the fare rules place on fares, the method comprising:

parsing a set of queries to provide at least one city pair corresponding to an origin and a destination of a flight slice;

retrieving fares and fare rules for each city pair over a time period set in the query;

evaluating the retrieved fares against the retrieved rules and returning a status corresponding to pass, fail, or defer; and

producing a summary of the results of evaluating the rules for a fare against the criteria specified in the query; and

displaying the summary on a user output device.

16. The method of claim 15 wherein producing further comprises:



determining whether the summary is complete, likely complete, partially complete or whether the summary is missing information.

17. The method of claim 15 wherein producing further comprises:  
representing the summary in a table where rows of the table represent fare rules and columns of the table represent fare rules or categories.

18. The method of claim 15 wherein producing further comprises:  
representing the summary in a table where rows of the table represent fares and columns of the table represent rules or categories; and  
applying a color to cells of the table with the color scheme signifying whether the cell corresponds to pass, fail, or defer status.

19. A computer program product residing on a computer readable medium for producing a fare rule summary comprises instructions for causing the computer to:  
populate a summary table of fares and corresponding evaluations for each fare rule category, each evaluation having a status; and  
render the summary table on an output device.

20. The computer program product of claim 19 wherein instructions to populate comprise instructions to:  
represent the summary table where rows of the table represent fares, columns of the table represent rules or categories.

21. The computer program product of claim 19 wherein instructions to populate comprise instructions to:  
apply a color to cells of the table with the color scheme signifying whether the cell corresponds to pass, fail, or defer status.

22. The computer program product of claim 19 wherein instructions to populate comprise instructions to: populate one of the columns of the table with fare price for segments of an itinerary.

23. The computer program product of claim 19 wherein instructions to populate comprise instructions to: populate at least one of the columns with fare combinability restrictions.

24. The computer program product of claim 19 wherein instructions to populate comprise instructions to: populate the summary table with fares and their corresponding evaluations for each fare rule category, and the summary table depicts whether or not the categories have a status of pass, fail, or defer for the fares.

25. The computer program product of claim 24 wherein instructions to populate comprise instructions to: represent pass, fail, or defer results by unique visual indications.

26. The computer program product of claim 19 wherein instructions to populate comprise instructions to: populate the summary table with a status of the summary.

27. The computer program product of claim 26 wherein instructions to populate comprise instructions to: indicate whether the status is complete, likely complete, partially complete, or missing information by applying a unique visual indication.

28. A method for providing a fare rule summary tool as a user interface for display on a monitor, the method comprising:

rendering on the monitor a fare evaluation result table that shows fare rule summaries for fares in slices of an itinerary, the fare evaluation result table having a first one of rows and columns representing fares and a second one of rows and columns representing the fare rule summaries.

29. The method of claim 28 wherein rows of the fare evaluation result table represent fares and columns represent the rule summaries.

30. The method of claim 28 wherein one of the columns represents fare price.

31. method of claim 28 wherein at least one of the columns represents fare combinability restrictions.

32. The method of claim 28 wherein the fare evaluation result table has the fare rules organized into categories of fare rules and the fare evaluation result table depicts whether or not the categories have a status of pass, fail, or defer for each fare.

33. The method of claim 32 wherein pass, fail, or defer result are represented by unique visual indications.

34. The method of claim 28 wherein the fare evaluation result table depicts the status of the summary, with the status of the summary represented by a unique visual indication.

35. The method of claim 34 wherein the status of the summary is whether the status is complete, likely complete, partially complete, or missing information.

36. A computer program product residing on a computer readable medium for producing a concise summary of fare rules and restrictions that the fare rules place on fares comprises instructions for causing a computer to:

parse a set of queries to provide at least one city pair corresponding to an origin and a destination of a flight slice;

retrieve fares and fare rules for each city pair over a time period set in the query;

evaluate the retrieved fares against the retrieved rules and returning a status corresponding to pass, fail, or defer; and

produce a summary of the results of evaluating the rules, the summary indicating the status of the rules for each category of rules; and

display the summary on a user output device.

37. The computer program product of claim 36 wherein instructions to produce further comprises instructions to:

determine whether the summary is complete, likely complete, partially complete or whether the summary is missing information.

38. The computer program product of claim 36 wherein instructions to produce further comprises instructions to:

represent the summary in a table where rows of the table represent fares and columns of the table represent rules or categories.

39. The computer program product of claim 36 wherein instructions to produce further comprises instructions to:

represent the summary in a table where rows of the table represent fares and columns of the table represent rules or categories; and

apply a color to cells of the table with the color scheme signifying whether the cell corresponds to pass, fail, or defer status.

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Serial No. : 09/812,224  
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Page : 29 of 29

Attorney's Docket No.: 09765-012001

**Evidence Appendix**

**None**

**Related Proceedings Appendix**

**None**